Survey of Digenetic Trematode Parasitism in Some Prosobranch Gastropods of the Cape Arago Region, Oregon

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In some areas, naturally occurring populations of snails have a high and variable incidence of digenetic trematode parasitism (Bourns, 1963). Several workers have shown that digenetic trematode parasitism has a variable, but direct influence on growth, pigmentation, reproduction, morphology (Cheng & Snyder, 1962), respiration and nitrogen metabolism (Duerr, 1965).

It is immediately obvious to anyone who has observed a snail shedding thousands of digenetic trematode cercariae, that the total mass of protoplasm under the shell of an infected snail is not the same as the total mass of protoplasm under the shell of a non-infected snail.

In spite of this, most ecological and physiological research has been and is done without consideration of the effects of digenetic trematode parasitism. There is a paucity of literature concerning the incidence and effects of digenetic trematode parasitism on snails in general and on Pacific coast snails in particular.

For the above reasons, the following survey was undertaken in July of 1964 at the Oregon Institute of Marine Biology, Charleston, Oregon.

Four hundred and seventy-four intertidal snails belonging to five different genera — *Tegula funebralis* (A. Adams, 1855), *Thais lamellosa* (Gmelin, 1792), *Searlesia dira* (Reeve, 1846), *Calliostoma ligatum* (Gould, 1846, and *Littorina scutulata* Gould, 1849 — were collected from the South Cove of Cape Arago, Oregon. These snails and 200 *Olivella biplicata* (Sowerby, 1825) (collected from the Coast Guard Beach at Charleston, Oregon) were brought to the laboratory, cracked open and examined. The incidence and type (as far as possible to determine at the laboratory) of trematode parasitism was recorded. This information is given in the following table.

It is interesting to note that some species of snails are heavily infected and others are seemingly parasite free. Until the natural history of these trematodes is worked out, it is impossible to discuss more than superficially the dynamics of parasitism in these mollusks.

It would seem that an intensive study of this sort and a comparison of the incidence of digenetic trematode parasitism from several locations on the Oregon coast merits serious consideration in the future.

LITERATURE CITED

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Number Examined	Species	% Infection	Type of Infection
100	*Tegula funebralis*	0.0%	
50	*Thais lamellosa*	0.0%	
50	*Searlesia dira*	0.0%	
100	*Calliostoma ligatum*	0.0%	
224	*Littorina scutulata*	10.7% (24)	5 Xiphidiocercariae
			12 Microcercous Cercariae
			7 Cysticercous Cercariae
200	*Olivella biplicata*	41.0% (82)	58 Xiphidiocercariae
			23 Microcercous Cercariae
			1 Strigeid Cercariae